

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII EXAMINATION – WINTER 2025

Subject Code:3171618

Date:28-11-2025

Subject Name:Blockchain

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) Is Blockchain centralized System? Justify your answer.	03
(b) Explain the concept of a 'block' in a Blockchain.	04
(c) Write applications and limitations of Blockchain.	07
Q.2 (a) Explain in brief types of Oracles.	03
(b) Distinguish Public and Private Blockchain.	04
(c) Analyze the impact of Blockchain technology on the traditional financial industry, focusing on aspects such as transaction speed, cost, and regulatory challenges.	07
OR	
(c) Explain Ethereum Block header in detail and different types of wallets in Ethereum?	07
Q.3 (a) How Merkle trees are important for Blockchain?	03
(b) Explain features and capabilities of Smart Contracts.	04
(c) Explain in detail about centralized, decentralized and distributed system.	07
OR	
Q.3 (a) How metamask is useful in Blockchain technology?	03
(b) Explain the various hyperledger fabric tools.	04
(c) Write notes on Scalability and security issues in any traditional system.	07
Q.4 (a) Explain Bitcoin, Altcoin, Token.	03
(b) Write in detail about Block Mining.	04
(c) Differentiate Proof-of-work and Proof-of-stake protocol.	07
OR	
Q.4 (a) Differentiate Blockchain and Bitcoin.	03
(b) Write note on Byzantine fault.	04
(c) Explain Key characteristics of Consortium Blockchain.	07
Q.5 (a) Explain the types of Cryptocurrency.	03
(b) Differentiate permissioned Blockchain and permissioned less Blockchain.	04
(c) Explain working with Consensus in Bitcoin in detail.	07
OR	
Q.5 (a) How blockchain is useful in education and healthcare?	03
(b) Give the uses of state machine.	04
(c) Explain steps for building Corda network.	07
